

Mayo clinic and IBM task Watson to improve clinical trial research

September 9 2014, by Christine Douglass

Mayo Clinic and IBM today announced plans to pilot Watson, the IBM cognitive computer, to match patients more quickly with appropriate clinical trials. A proof-of-concept phase is currently underway, with the intent to introduce it into clinical use in early 2015.

"In an area like cancer —where time is of the essence—the speed and accuracy that Watson offers will allow us to develop an individualized treatment plan more efficiently so we can deliver exactly the care that the patient needs," says Steven Alberts, M.D., chair of medical oncology at Mayo Clinic.

Researchers hope the increased speed also will speed new discoveries.

Clinical trials provide [patients](#) with access to new and emerging treatments, yet enrolling participants in trials is one of the more difficult parts of clinical research. Currently it is done manually, with clinical coordinators sorting through patient records and conditions, trying to match them with the requirements of a given study protocol. At any given time, Mayo Clinic is conducting over 8,000 human studies in addition to the 170,000 that are ongoing worldwide. Watson's cognitive computing ability will help sift through available Mayo [clinical trials](#) and ensure that more patients are accurately and consistently matched with promising clinical trial options.

"With shorter times from initiation to completion of trials, our research teams will have the capacity for deeper, more complete investigations,"

says Nicholas LaRusso, M.D., a Mayo Clinic gastroenterologist and the project lead for the Mayo-IBM Watson collaboration. "Coupled with increased accuracy, we will be able to develop, refine and improve new and better techniques in medicine at a higher level."

This version of Watson will be especially designed for Mayo Clinic. As it progresses in its tasks and matures through this collaboration, it will learn more about the clinical trials matching process, become even more efficient and likely more generalizable. Watson also may help locate patients for hard-to-fill trials, such as those involving rare diseases.

Many clinical trials at Mayo Clinic and elsewhere are not completed due to lack of sufficient enrollment. Enrollment in general could be increased by the Watson project. In spite of well-organized efforts, even at Mayo Clinic, just five percent of patients take part in studies. Nationally, the rate is even lower, at three percent. Mayo hopes to raise clinical trial involvement to include up to 10 percent of its patients. Researchers say the higher participation also should improve the quality of research outcomes.

"Using Watson's cognitive computing capabilities, Mayo Clinic can consistently offer more cutting-edge medical options to patients and conclude trials faster," said Mike Rhodin, senior vice president, IBM Watson Group. "Ultimately, this effort will also help advance scientific discoveries into promising new forms of care that clinicians can use to treat all patients."

To ensure Watson has the required expertise to assist with clinical trial matching, Mayo experts are working with IBM to expand Watson's corpus of knowledge to include all clinical trials at Mayo Clinic and in public databases, such as ClinicalTrials.gov. The new Watson system is being trained to analyze patient records and clinical trial criteria in order to determine appropriate matches for patients.

Mayo and IBM are discussing other applications for Watson in the future.

Provided by IBM

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